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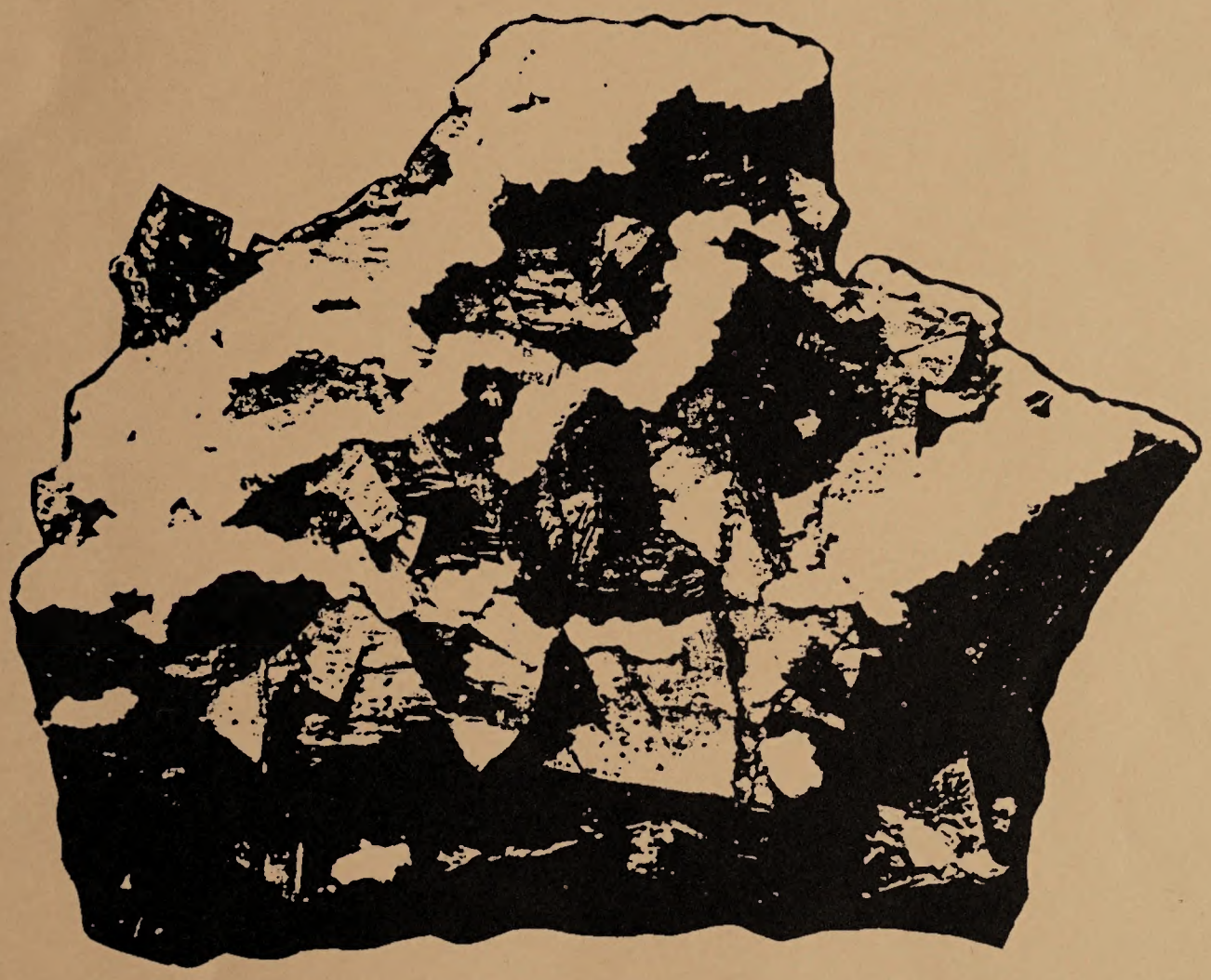
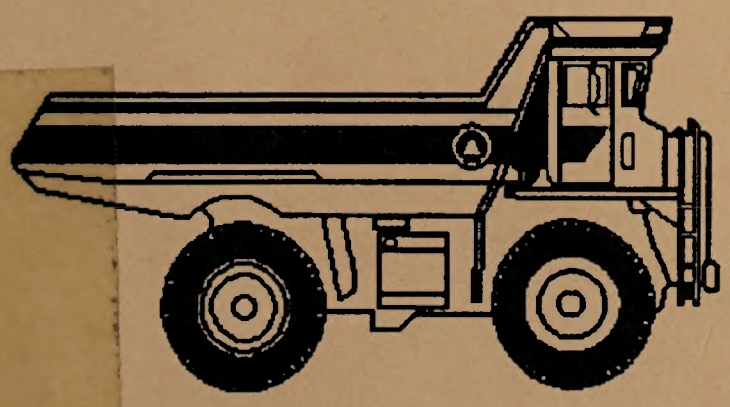
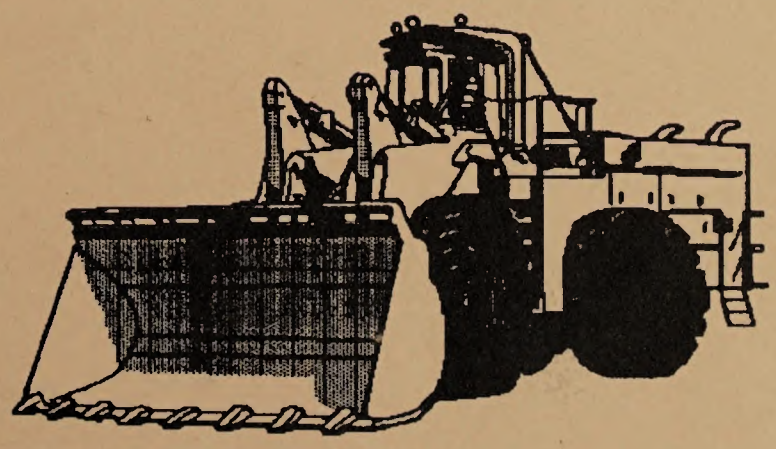
Record of Decision Environmental Impact Statement Sanchez Copper Project







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RECORD OF DECISION
SANCHEZ COPPER PROJECT

Case Number: A 25564

U.S. Department of the Interior
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Arizona State Director

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RECORD OF DECISION
SANCHEZ COPPER PROJECT
ENVIRONMENTAL IMPACT STATEMENT

INTRODUCTION

This Record of Decision (ROD) approves the Mining Plan of Operation submitted by AZCO Mining Inc. as presented in the proposed action of the Sanchez Copper Project Final Environmental Impact Statement. AZCO proposes to develop an open pit copper mine and processing facilities on mining claims administered by the Bureau of Land Management in Graham County, Arizona. Conventional open pit mining techniques will be combined with heap leaching and solvent extraction-electrowinning (SX-EW) processing to produce high quality copper for domestic consumption. This project will produce an estimated 25,000 tons of copper annually and remain in production for 17 years. Once full production capacity is reached the project will employ approximately 210 people with an annual payroll of 8.15 million dollars.

This Record of Decision describes the selected alternative, other alternatives considered, the rationale for adopting the selected alternative, mitigation requirements, required monitoring and a description of public participation in the identification, development and evaluation of significant issues generated by this proposal. Environmental compliance documentation for the project has been thoroughly reviewed by federal agencies, state agencies and private organizations and individuals. Comments and issues raised in this process have been addressed through modification of the proposed action or clarified through additional studies and analysis of existing data. The resulting proposed action minimizes environmental consequences while allowing the development and production of a valuable mineral resource.

DECISION

It is the decision of the Arizona State Director of the Bureau of Land Management to authorize AZCO Mining Inc. to proceed with development of the Sanchez Copper project as described in the **PROPOSED ACTION** of the Final Environmental Impact Statement, pages 2-1 through 2-43 and in the **MITIGATION** section of this Record of Decision, pages 8 through 11. The Proposed Action includes the following major activities.

1. AZCO Mining Inc. will utilize conventional open pit mining techniques to mine ore and waste rock at an average rate of 25 million tons per year over a 17 year period. This will lead to the production of an average of 25,000 tons of high quality copper per year and the annual generation of approximately 8 million dollars in wages.

2. Heap leaching, utilizing sulfuric acid, and solvent extraction-electrowinning processing will be used to separate elemental copper from the ore. Processing and administrative facilities will be constructed adjacent to the mine.

3. Operation of the mine will disturb approximately 1,400 acres of land and will ultimately create a pit about 4,000 feet in diameter and 1,200 feet deep. Waste rock dumps, the leach pad and associated roads contribute approximately 1,000 acres of this disturbance. The pit itself will encompass approximately 277 acres, most of which has been previously disturbed by historic mineral exploration and development activities.

4. Access to the mine and processing facilities will be split between the Sanchez and Solomon Pass Roads. The realignment of the Sanchez Road, Right-of-Way Number A-22710 will be serviceable prior to the beginning of mine construction. Once copper production begins, the majority (74%) of heavy truck traffic, including all acid tankers, will be directed to the Solomon Pass route to avoid potential risks of mixing trucks, farm equipment, and school busses on the Sanchez Road.

5. All mining and processing activities will comply with appropriate state and federal standards for those activities. Actions with the potential to affect air, surface and ground water quality will comply with Best Available Demonstrated Control Technology (BADCT) guidelines of the Arizona Department of Environmental Quality (ADEQ). All required state and federal permits will be secured by AZCO Mining Inc. before the production phase begins.

6. Electrical power for the operation will be supplied by the Graham County Electrical Cooperative. Electric power will be brought to the project site along existing powerlines that pass within a few hundred feet of the proposed processing facility. Energy consumption by the project is expected to be approximately 87,000 megawatt-hours per year at full production capacity.

7. The project will consume an average of 2,600 acre feet of water each year. Consumption will average 1,600 gallons per minute and range between 1,000 and 2,000 gallons per minute seasonally. All this water will be consumed on site with no discharge to the surrounding environment with the exception of the septic tank sanitary waste effluent. Water for the project will come from pit dewatering and on-site wells that will draw water from the various confined aquifers. Project water sources, consumption, management and controls will prevent any significant effect on the quantity or quality of water in the Gila River. All sources of water used in the project will comply with Federal as well as Arizona State laws and regulations governing the acquisition, use and quality of groundwater within the state. The required state permits will be obtained by AZCO to ensure compliance with these laws.

8. Septic tank and leach field systems will be constructed at the mine and processing facility sites for sewage treatment and control. Septic system design and specifications are subject to review, approval and permitting by the Graham County Health Department. Non-toxic solid wastes will be temporarily stored on the project site and transferred to the San Jose transfer station or the Central County Landfill by AZCO for final disposal.

9. All hazardous substances will be transported, handled and disposed of in accordance with state and federal regulations, Title 40 Code of Federal Regulations, Arizona Department of Environmental Quality (ADEQ), Arizona Department of Transportation (ADOT), Mine Safety and Health Administration (MSHA) or Occupational Health and Safety Administration (OSHA) regulations. All hazardous substances will be shipped off site for final disposal.

10. The post operation site closure and reclamation plan contains a set of specific goals for the project site and identifies a Post-Closure Site management Committee to ensure that they are carried out. These goals address erosional stability, hydrologic stability, topography, safety, revegetation and post-closure land use. The ultimate goal is to create unobtrusive and stable landforms, prevent excess erosion, mitigate for visual impacts and restore the project area to long term multiple use.

11. A Surety Bond will be obtained by AZCO to cover the full cost of reclamation. The amount of the bond will be calculated in three year increments based on the amount and type of surface and subsurface disturbance expected during the next three year increment. The initial bond amount is based on projected disturbance in the first three years of mine activity and will be adjusted each third year using the same criteria.

12. AZCO will assume responsibility for maintenance of fences and barriers around the pit and other areas of the project site for five years after closure and bond release. AZCO will establish a trust fund in the amount of $50,000 (1992 dollars) to provide for these activities. The term of the trust fund will commence with bond release and extend for five years.

ALTERNATIVES

Five alternatives and the no action alternative were considered in addition to the proposed action. These alternatives propose the use of various access routes, leach pad configurations, groundwater disposal techniques, reclamation techniques and the post operational conditions of the pit.

Under the **NO ACTION ALTERNATIVE**, page 2-44 of the Final Environmental Impact Statement (FEIS), no further development of minerals would occur on the public lands in question. The approximately 245 acres of land disturbed by historic and current mineral exploration and development activity would slowly recover natural vegetation and aesthetic characteristics. The NO ACTION ALTERNATIVE is identified as the environmentally preferable alternative.

Under the **ACCESS ALTERNATIVE**, pages 2-44 through 2-46 of the Final EIS, all traffic to and from the mine and processing facilities would use one of two routes to reach the project. Both routes use existing, paved highways, roads or streets except for the last mile along the Sanchez Road which is unpaved. The first route would follow U.S. Highway 70 east to Solomon. At Solomon traffic turns north on the Sanchez Road, crosses the Gila River on the Solomon Bridge, and proceeds east on Sanchez Road to the site. The second route would cross the Gila River on the Eighth Avenue Bridge in Safford proceed east on the Airport Road to the Sanchez Road and along the Sanchez Road to the project site.

Two **HEAP LEACH PAD CONFIGURATION ALTERNATIVES**, pages 2-47 through 2-49, were considered. One alternative utilized one pad with a relatively shallow (1%) slope. The other alternative utilized two pads with steep (14%) slopes. The alternative, utilizing a single leach pad with 1% slope, may not be feasible due to inadequate drainage of leachate from the pad. The second alternative requires duplicate solution ponds,

more extensive piping and disturbs an additional 50 to 100 acres of land surface.

Two **GROUNDWATER DISPOSAL ALTERNATIVES**, pages 2-47 and 2-50 of the Final EIS, were considered. Hydrologic studies conducted in 1992 by Geothermal Surveys Inc. (GSI) indicate that all groundwater intercepted by the pit will be used in project applications. Two alternatives are considered for the disposal of excess groundwater if, in the worst case scenario, more groundwater is intercepted by the pit than can be utilized by the operation. The first alternative directs the excess water into nearby irrigation canals for agricultural use. This alternative assumes that water quantities and quality are suitable for this purpose. The second alternative injects the excess water, under pressure, into the Lower Gila Conglomerate aquifer. This alternative assumes that the quality of the water is poor and the Arizona Department of Environmental Quality (ADEQ) allows disposal of excess water into the aquifer in which the water originated.

RECLAMATION TECHNIQUE ALTERNATIVE, pages 2-50 and 2-51 of the FEIS, addresses various ways the leach pads and waste rock dumps could be handled for reclamation purposes. The alternative addresses flattening side slopes of the leach pads and waste rock dump to enhance revegetation efforts. Under this alternative an additional 100-200 acres of undisturbed land would be highly disturbed in the effort to reclaim the side slopes.

The **PARTIAL BACKFILLING OF THE PIT ALTERNATIVE**, pages 2-51 and 2-52 of the FEIS, discusses the option of using waste rock to partially backfill the pit if a pond of toxic or poor quality water accumulates in the bottom after the operations cease.

MANAGEMENT CONSIDERATIONS

Federal Laws

Federal laws such as the General Mining Law of 1872 (as amended), the Mining and Mineral Policy Act of 1970, and the Federal Land Policy and Management Act of 1976 support a national policy to foster and encourage the discovery and development of domestic mineral resources. These laws and the regulations formulated to implement them strongly favor the development of projects such as the Sanchez Copper Project. The situation is best stated in Title 43 of the Code of Federal Regulations part 3809. "Under the mining laws a person has a statutory right, consistent with Departmental regulations, to go upon the open (unappropriated and unreserved) Federal lands for the purpose of mineral prospecting, exploration, development, extraction and other uses reasonably incident thereto. This statutory right carries with it the responsibility to assure that operations include adequate and responsible measures to prevent unnecessary and undue degradation of the Federal lands and to provide for reasonable reclamation." The proposed action presented in the FEIS complies with these laws and regulations.

Environmental Impacts

Significant environmental consequences of implementing the proposed action, as analyzed in the EIS, will be confined to the project site. Potential impacts to soil, air, water, vegetation, wildlife, aesthetics, cultural resources, mineral resources, transportation, future land uses and the socioeconomics of the area were considered in the EIS.

Water Resources

Analysis of the impacts to water resources, presented in the EIS, is based on the 1989 Sergent, Hauskins and Beckwith (SHB) preliminary permitting study and the October 7, 1992 Geothermal Survey Inc. (GSI) study. Results of the analysis indicate there will be little or no effect on the surface water resources of either the local area or region. The quantity and quality of the water in the Gila River is not expected to be significantly affected by this project.

Water rights

The controversy concerning water rights in the upper Gila Basin centers around the apportionment of the surface flow in the Gila River among the Indian Tribes that hold federal water rights, and other water users holding state water rights. Included in the controversy is the effect of groundwater pumping in the basin on surface flow in the Gila River.

AZCO recognizes that water rights matters in the Upper Gila River watershed are presently subject to litigation and jurisdictional boundaries are unclear. AZCO recognizes that its proposed water uses could be subject to the jurisdiction of the federal court with jurisdiction over the 1935 Gila River decree, and/or the state court with jurisdiction over the Gila River adjudication, and/or the Arizona Department of Water Resources. AZCO recognizes it could be made party to water rights litigation by action of the United States government, various Indian communities, or other parties. AZCO under-

stands that this Record of Decision in no way provides any protection or insulation for AZCO from any of the above-referenced water rights litigation, and in addition does not protect or insulate AZCO from legal action by the United States government either in its own right or on behalf of affected Indian communities. AZCO is aware of the water rights controversy and will conform with the decisions rendered by the state and federal courts in the adjudication and enforcement of water rights in the Gila Basin.

Water quality

Impacts of the project on water quality have been analyzed and are expected to be minimal. The application of state of the art mining technology, design specifics of the operation and adequate monitoring plans contribute to this conclusion. The Arizona Department of Environmental Quality (ADEQ) will issue an Aquifer Protection Permit (APP) before operations begin. This permit identifies the specific designs, operations and monitoring protocol necessary for the protection of groundwater quality in and around the project site. The Army Corps of Engineers must issue a Clean Water Act 404 permit and the Environmental Protection Agency must issue a Storm Water Discharge permit before operations commence.

In addition, AZCO recognizes that water quality issues may be addressed in litigation concerning water rights in the Upper Gila basin. AZCO recognizes that it could be made a party to water quality litigation by action of the United States government, various Indian communities, or other parties. AZCO understands

that this Record of Decision in no way provides any protection or insulation for AZCO from any water quality litigation, and in addition does not protect or insulate AZCO from legal action by the United States government either in its own right or on behalf of affected Indian communities.

Air Resources

Environmental Protection Agency approved methodology was used to model the impacts on air resources. Results indicate that all applicable state and federal air quality standards will be met. The use of dust suppressants on roads, foggers and spray bars on conveyors and crushers and normal minimum blasting techniques will control the amount of fugitive dust in and around the project area.

Aesthetics

The creation of the pit, leach pads and waste rock dumps will permanently alter the landscape. Reclamation efforts involving contouring, revegetation, and facility removal will mitigate the adverse impacts. The large open pit and sideslopes of the heap leach pads and waste rock dumps are likely to be the most noticeable, permanent, evidence of the project.

Economic Impacts

The Sanchez Copper Project will have a beneficial impact on the Safford area economy. Benefits to the area will accrue from the direct payment of 8 million dollars in annual wages, indirect stimulation of the local economy, and an increased tax-base for Graham County that will benefit local schools.

Site closure and reclamation plan

The reclamation plan includes revegetation, utilizing native plants, of 765 of the 1,400 acres of disturbed land. The entire site will be cleaned up, administrative and processing facilities removed, foundations buried, leach pads and waste rock piles rinsed and stabilized as required to prevent erosion. Many of the natural drainages will be reestablished, and safety hazards will be eliminated. The effects on mineral resources, soils, vegetation, wildlife, land use, cultural resources, and transportation are judged to be insignificant or acceptable with mitigation measures identified in the FEIS.

Guidance and directives provided by state and federal laws governing mining combined with the positive long-term socioeconomic impacts and the limited negative environmental impacts lead to the conclusion that the Sanchez Copper Project as defined in the proposed action conforms to accepted environmental standards.

MITIGATION

Air Resources

1. Water and chemical dust suppressants will be used on project haul roads to suppress dust.

2. Dust generated by crushers and conveyors will be controlled with spray bars and pneumatic foggers.

3. AZCO will obtain an Air Quality Installation Permit from ADEQ prior to beginning construction of the regulated facilities.

Water Resources

1. Interception wells and/or a cut-off wall will be constructed should upper Gila Aquifer water begin seeping into the pit.

2. Diversion ditches will be used to divert runoff around heap leach pads, waste rock dumps and other disturbed areas.

3. Rip-rap will be used in the diversion ditches as necessary to control runoff velocities and reduce erosion.

4. Runoff from disturbed areas will be collected in sedimentation control ponds.

5. Water returned to natural drainages after routing around disturbed areas of the project will have energies similar to natural flows to prevent additional erosion in the natural channels.

6. All water use by the project will conform to the applicable state and federal laws and applicable water rights decrees. AZCO will comply with the decisions rendered in the Gila River Adjudication, the federal court with jurisdiction over the 1935 Gila River decree or other appropriate authorities with jurisdiction.

7. AZCO will obtain all federal, state and local permits pertaining to water quality prior to the production phase of the operation. This includes but is not limited to the ADEQ Aquifer Protection Permit and the Army Corps of Engineers Clean Water Act 404 Permit.

8. An approved water quality monitoring plan will be implemented prior to the production phase of the operation.

9. If groundwater of unacceptable quality accumulates in the bottom of the pit the reinjection or backfilling alternatives may be used to mitigate the problem.

Soil Resources

1. Coversoil from the disturbed areas of the project will be salvaged for use in reclamation efforts.

2. Salvaged coversoil will be stockpiled and protected for later use.

3. Coversoil will be distributed on all appropriate areas prior to revegetation.

4. 765 acres disturbed by the project will be successfully revegetated utilizing native plants.

5. The site including heap leach pads and waste rock dumps will be stabilized and contoured to create stable landforms and prevent excessive erosion.

Vegetation Resources

1. The Reclamation Plan in section 2.1.9 of the FEIS identifies the mitigation actions relevant to vegetation. The plan includes guidelines for the revegetation of approximately 765 acres of the project site with native vegetation. Revegetation will begin while the mine is still in operation and will be considered successful when a native plant community of similar diversity and density to the existing community is in place for two years. Numeric values for these criteria will be determined by the Reclamation and Post-Closure Site Management Committee.

2. Permission will be obtained from the Arizona Department of Agriculture prior to the removal or salvage of any state protected plants on the project site.

Wildlife Resources

1. AZCO will provide $2,500 for bat research in the local area before the construction phase of the operation begins.

2. AZCO will construct a wildlife water source if wildlife use of a nearby water source significantly diminishes.

3. AZCO will net all solution ponds to exclude all birds covered under the Migratory Bird Treaty Act and all animals protected under the Endangered Species Act if BLM approved monitoring discovers adverse impacts to these species caused by the solution ponds.

4. An approved wildlife monitoring plan will be implemented before the solution ponds are filled.

Land Use

1. Fences will be constructed to keep cattle and other large animals away from leach pads, ponds and processing facilities.

2. Warning signs will be posted at road entrances at the project boundary to advise the public of potential health and safety hazards associated with the project.

Signs and fencing will be maintained on the north side of the pit for the life of the project.

3. AZCO will negotiate terms and conditions with the permittee of the Sanchez grazing allotment to facilitate termination of grazing privileges during the period of time the mine is in operation.

4. BLM will cancel the Sanchez grazing permit once the mining operation makes allotment management unfeasible.

Cultural Resources

1. The approved treatment plan provides for mitigation of impacts to all cultural sites impacted by the project. This plan meets the legal requirements of the Antiquities Act, the Historic Preservation Act and other federal and state laws governing cultural resources.

2. Mitigation for cultural resources will be completed prior to starting surface disturbing activities with the potential to impact these sites.

Aesthetics

1. All blasting will occur during normal business hours (8:00 AM to 5:00 PM).

2. The waste rock pile will be sloped to resemble the natural contours of the area.

3. The tops of leach pads and waste rock piles will be revegetated.

4. Buildings and facilities will be painted earth tone colors.

5. After operations cease all buildings and equipment will be removed from the site. Foundations will be buried in place and facility areas will be contoured to blend in with the surrounding area.

Transportation

1. All traffic other than employees commuting to work will utilize the Eighth Avenue bridge in Safford.

2. Improved traffic signals will be installed at the intersection of Highway 70 and Eighth Avenue if increased traffic to and from the mine creates a safety hazard.

3. AZCO will actively encourage employees to carpool to the site to reduce potential traffic along Sanchez Road.

4. The realignment of the Sanchez Road, right-of-way Number A-22710 will be serviceable before mine construction begins.

MONITORING

Water Quality

1. Appendix D of the FEIS describes the water quality monitoring activities that will be associated with this project. The requirements and responsibilities for water quality monitoring are described in detail in this appendix. During the various permitting procedures modifications to this monitoring plan may occur. These changes shall be incorporated into the monitoring plan as they occur and will be implemented prior to the production phase of the operation.

2. Arizona Department of Environmental Quality (ADEQ) is responsible for most aspects of water quality monitoring. BLM and ADEQ are jointly responsible for review of monitoring reports and site inspections. ADEQ and BLM will cooperate in developing and implementing a monitoring and compliance check schedule.

3. AZCO must obtain the Aquifer Protection Permit and Clean Water Act 404 permit prior to starting operations.

Mining Plan of Operation

1. Bureau of Land Management personnel (BLM) will monitor the Sanchez Copper Project for compliance with the Mining Plan of Operation as described in the Proposed Action of the FEIS.

2. BLM personnel will be responsible for monitoring the implementation of all mitigation measures described in this Record of Decision.

3. Field inspections will be completed at a minimum twice a year. Monitoring requirements and responsibilities are presented in the Bureau of Land Management Instruction Memorandum 90-59 dated October 23, 1989 and updated with Instruction Memorandum 92-285 dated July 29, 1992.

Air Quality

1. The Arizona Department of Environmental Quality (ADEQ) will specify all air quality monitoring activities related to this project in The Air Quality Permit. ADEQ is responsible for enforcement of these activities and assuring that applicable air quality standards are maintained.

2. AZCO must obtain the Air Quality Permit prior to starting construction of the regulated facilities.

Wildlife

1. A wildlife monitoring plan will be developed and approved prior to the filling of the solution ponds.

2. BLM and Arizona Game and Fish Department will cooperate in the development of this monitoring plan.

3. BLM will be responsible for the implementation of the monitoring plan.

PUBLIC INVOLVEMENT

Public participation was actively encouraged by the Safford District Bureau of Land Management through out the development and evaluation of the Sanchez Copper Project.

A notice for a public information meeting was published in a local and regional newspaper. Fifty-eight people attended the meeting held in Safford on August 28, 1991.

A Notice of Intent (NOI) was published in the Federal Register announcing a public scoping meeting and requesting written comments addressing issues, concerns and alternatives to be addressed in the Environmental Impact Statement. Fifty-two people registered at the September 27, 1991 meeting 11 gave oral testimony and 37 comment letters were received.

In March, 1992 the Draft Environmental Impact Statement (DEIS) was released for public review and comment. Notices were published in the Federal Register, local and regional newspapers soliciting comments on the DEIS and project. Over 275 DEISs were mailed out for review; 39 comment letters were received.

On April 2, 1992 the BLM held a public meeting in Safford regarding the DEIS. Local citizens attended the meeting and stressed concerns about access to the project site. Notice of this meeting was published in the Federal Register and newspapers with local and statewide distribution.

On April 27, 1992 Graham County and BLM held an evening public meeting to address the access issue. The meeting was attended by Sanchez area residents. Notice of this meeting was published in the local newspaper.

On June 1, 1992 BLM hosted a public meeting in Safford to present an alternative access proposal. Notice for this meeting was published in the Federal Register and newspapers with local and statewide distribution.

Modifications of the Mining Plan of Operation as presented in the Proposed Action of the FEIS responds to issues and comments received from federal and state agencies, private organizations, and individuals on the Draft Environmental Impact Statement (DEIS). Major changes in access to the site, leach pad configuration, solution pond configuration, and processing facility location were made as a result of these comments. In addition public and agency input prompted the BLM to require additional air resource and hydrologic studies to further investigate the impacts of the project on these resources. Public interest and participation in the Sanchez Copper Project played an important role in development and modification of this project.

Issues Raised In Comments On The FEIS

Eighteen comment letters were received on the Final Environmental Impact Statement. These comments focused on six significant issues: 1). Opportunities for public participation in the preparation of the EIS. 2). Water rights. 3). Water quality. 4). BLM compliance with laws and regulations governing the permitting of this project. 5). Project compliance with the Undue and Unnecessary clause in the 3809 regulations. 6). Various technical issues. A discussion of these issues is included as Appendix 1: Response to Comments on the Sanchez Copper Project Final Environmental Impact Statement.

APPENDIX 1
RESPONSE TO COMMENTS ON THE SANCHEZ COPPER PROJECT FINAL ENVIRONMENTAL IMPACT STATEMENT

Issue 1

Assertions are made that the BLM did not provide enough opportunities for public input prior to and during the preparation of the Draft and Final Environmental Impact Statements.

The Gila River Indian Community; W&EST Inc.; Gookin Engineers; and Sparks and Siler Attorneys all presented this comment.

Response

1. NEPA compliance for public notice and participation in the preparation of an environmental impact statement as defined in the CEQ Regulations (40 CFR 1501.7 Scoping, 1506.6 Public Involvement, 1502.19 Circulation of the Environmental Impact statement, 1503.1 Inviting Comments) was achieved in the preparation of this EIS. The Final IS presents information on public participation in Sec. 5.1 Public Participation and Scoping, 5.2 Public Participation Plan on pages 5-1 through 5-4 and in the Summary pages XIII and XIV.

2. The requirements for public notice and participation were met in the following manner:

   a. Public meetings were held at four different times during the process.

      Public Information Meeting prior to Scoping
      August 28, 1991
      Public Scoping Meeting October 21, 1991
      Public Meeting after release of the Draft EIS
      April 2, 1992
      Public Meeting specifically addressing the access issue
      June 1, 1992 * All meetings were held in Safford, Arizona

   b. Meeting were held on the San Carlos Apache Reservation with the Tribal Council in 1989 and 1992 to provide the tribe with specific information concerning this project.

   c. All required Federal Register Notices were published at the appropriate times. They included:

      Notice of Intent to Prepare an EIS
      Notice of Availability for the Draft EIS
      Notice of Availability for the Final EIS
      Notices for each of the public meetings

   d. Notices for public meetings, and the availability of the Draft and Final EIS for public review and comment were published in National, Statewide and Local publications.

      National distribution .....Federal Register
      Statewide distribution ...Arizona Daily Star
      Local distribution .....Eastern Arizona Courier

   e. The Draft EIS was subject to public review and comment for a period of 60 days March 13 through May 11, 1992. Over 275 copies were distributed to federal, state, and local agencies as well as private organizations and individual citizens.

   f. The Final EIS was available for Public comment for thirty days from December 18, 1992 to January 19, 1993. Over 350 copies were distributed for comment.

Conclusion

Since all requirements for public notice and involvement in the preparation of the EIS were met or exceeded, as described above, the assertions in this comment is not supported by fact.

Issue 2

Assertions are made that BLM did not consider the effects of the project on the water rights of downstream water users with senior state and federal rights.

The Gila River Indian Community; W&EST Inc.; Gookin Engineers; U.S. Dept. of the Interior Solicitor, Phoenix Field Office; Bureau of Indian Affairs; U.S. Department of Justice; Superintendent San Carlos Agency; and Sparks and Siler Attorneys, all presented this comment.

Response

1. Water rights were not identified as an issue in any of the public meetings, scoping activities, or public comments on the draft EIS by any Federal agency, State Agency, Private Organization or Individual.

2. Comments on the draft EIS identified a concern about the effect of the project on the quantity of water in the Gila River. This comment led to the commissioning of the GSI study to clarify the hydrologic conditions in the local and project areas. The Final EIS incorporates the results of this study in an expanded investigation and analysis of this issue. Based on the additional study the conclusion of this analysis is that the project will not have a measurable impact on streamflow in the Gila River.

3. The BLM and AZCO recognize that water rights matters in the Upper Gila basin are presently subject to litigation, and jurisdictional boundaries are unclear. Water rights on the Gila River are currently under litigation in state and federal courts. During the litigation process the legal relationship of ground water and surface water in the Gila River basin, including the project area, will be defined. The United States will then use this definition to uphold federal trust responsibilities as they relate to federal water rights. Under federal as well as state Law AZCO will be required to conform to water rights on the Gila River as defined through this litigation. AZCO assumes the risk that its proposed water uses may result in AZCO being drawn into water quantity litigation, even by the United States government. AZCO is aware that it may have to rely on the purchase of valid existing water rights in order to provide a viable water supply for this project.

4. It is clearly stated in the EIS that AZCO will conform to all applicable state and federal laws and will acquire all necessary state and federal permits before operations begin. This includes permits from Arizona Department of Water Resources for well drilling and ground water use.

5. The controversies and litigation surrounding water rights on the Gila River is complex and unresolved. These legal issues are clearly beyond the scope of the EIS.

Conclusion

BLM has made a concerted effort to provide information which could be used in the NEPA process to assess environmental issues. This effort resulted in additional hydrologic investigations which were conducted by professionals (Geothermal Surveys Inc.) with the technical expertise necessary for the analysis of these issues.

The water rights concerns in the Gila Basin have been controversial, under litigation and subject to attempted legislative solutions for decades. These controversies are likely to continue into the foreseeable future. AZCO will comply with applicable Federal and State law in the use of water for the project.

Issue 3

Assertions are made that the Final Environmental Impact Statement does not adequately address the impacts of the project on water quality in the Gila River.

The Gila River Indian Community; W&EST Inc.; Gookin Engineers; Sparks and Siler Attorneys; Superintendent of the San Carlos Agency; U.S. Dept. of the Interior Solicitor Phoenix Field Office; U.S. Dept. of Justice; U.S. EPA; and Arizona Game and Fish Dept., all presented this comment.

Response

1. Water quality issues are addressed in many sections of the EIS. The effect of the project on water quality of the Gila River and the aquifers that underlie the project are under the jurisdiction of various state and federal agencies. These agencies will address water quality issues through their permitting procedures. Permits that will be required include:

   Aquifer Protection Permit (APP) —
   Arizona Department of Environmental Quality
   Clean Water Act 404 Permit —
   U.S. Army Corps of Engineers
   Storm Water Discharge Permit —
   U.S. Environmental Protection Agency

2. The EIS analyzes the water quality impacts of the project within the constraints that may be imposed by other permitting requirements. Examples include such things as general leach pad design, liner design for the leach pad and various solution channels, size and design of diversion channels, leak detection methodology etc. The BLM assumes that compliance with these permits will lead to safe designs that will meet the intended water quality

protection function. The conclusion of the EIS is that the project will have minimal effects on the water quality of the Gila River and project area aquifers.

Conclusion

The issue of water quality is addressed in the FEIS in sufficient detail to allow the BLM to analyze the impacts of the project and draw a conclusion. AZCO will abide by all state and federal laws pertaining to water quality and obtain all the permits required by these laws.

Issue 4

Assertions are made that BLM did not comply with laws and procedures that govern the analysis and permitting of this type of project.

Sparks and Siler attorneys made this comment.

Response

1. The EIS complies with the procedures required in the CEQ regulations (40 CFR 1500.).

   a. It shows that BLM has taken a hard look at the environmental impacts and a range of reasonable alternatives.

   b. It reflects a prudent process of public involvement: National notice (Federal Register); Statewide notice (Arizona Daily Star); Local notice (Eastern Arizona Courier); public scoping and issue identification meetings, public review, public meetings on the Draft EIS, Notices of Availability (Federal Register and State/local) of the Draft and Final EIS.

   c. It clearly identifies the purpose and need for the action, issues that are associated with the action, the proposed action and alternatives, the existing situation, direct, indirect, and cumulative impacts of the alternatives.

   d. It makes use of studies by professional authorities with technical expertise appropriate for the analysis of impacts. The preparers and their expertise were identified; the FEIS includes a list of references providing details about text citations.

   e. It provides a thorough procedural basis for a Record of Decision.

   f. It repeatedly states that approval of the preferred action will be contingent on obtaining all required ermits from "federal, state and local agencies with jurisdiction over the project" (page 1-6) and sites specific compliance procedures (e.g. pages 2-13, 2-31, 2-35 etc.).

Conclusion

All procedural requirements have been met in the preparation of this EIS.

Issue 5

Assertions are made that leaving the highwall and other impacted surface acreage unreclaimed should be compensated for on an acre for acre basis. Without this compensation the project is alleged to be in violation of the Undue and Unnecessary clause in the 43 CFR 3809 regulations.

U.S.EPA, Arizona Game and Fish Dept. and Wes Light presented this comment.

Analysis

1. The project and mitigation presented in the FEIS is in conformance with the Bureau's interpretation of the 40 CFR 3809 regulations.

2. Changes in the proposed action between the Draft and Final EIS have resulted in a reduction of unreclaimed surface disturbance from approximately 900 acres to approximately 765 acres.

Conclusion

This project is in conformance with the 3809 regulations as they are currently interpreted by the Bureau.

Issue 6

Assertions are made on a large number and wide range of technical issues.

W&EST Inc; Gookin Engineers; Wes Light; Arizona Game and Fish Dept.; Superintendent San Carlos Agency; Sierra Club; Arizona Dept. of Environmental Quality; U.S. EPA; Sparks and Siler Attorneys, offered comments on this issue.

APPENDIX 1

Response

1. Comments were received on technical issues involving hydrologic study methodology, hydrologic calculations, wildlife mortality, monitoring methodology, monitoring sites, water quality, diversion canal design, design standards, flood event effects, etc. These issues ranged from suggestions of how to improve certain aspects of the project to claims that flawed data and flawed methodology led to flawed conclusions and a flawed FEIS that should be rejected.

2. In some cases specific issues will be resolved during the APP and 404 permitting processes (monitoring methodology, project design standards, etc.). Other cases represent experts disagreeing over the interpretation of the data set (relationship of project area ground and surface water, Pit inflow calculations, evaporation calculations, etc.).

3. BLM's position is that the FEIS is an analysis of project impacts based on studies conducted by consulting professionals with expertise in the fields under analysis and that the conclusions in the FEIS are based on the findings of these studies.

Conclusion

The analysis of environmental impacts found in the Final EIS is based on a series of technical investigations carried out by professional consultants with expertise in these fields. The analysis and conclusions presented in the Final EIS are consistent with the findings of these investigations.

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APPENDIX 2
CLARIFICATION OF THE GROUNDWATER HYDROLOGY OF THE SANCHEZ COPPER PROJECT SITE

The concerns expressed about this project's potential effect on streamflow in the Gila River and the appurtenant water rights has encouraged AZCO to perform additional tests and analysis to further define the groundwater conditions under the project site and their relation to flows in the Gila River. These tests and analysis support the following clarification of this situation and results in the following changes in the EIS.

1. AZCO will extract all groundwater for use in this project from wells completed in confined aquifers below the project site. These aquifers are expected to be found non-tributary to (hydrologically separate from) the Gila River during the Gila River Adjudication process. These wells will be completed in either the confined upper Gila Conglomerate Aquifer or the confined lower Gila Conglomerate Aquifer. If insufficient water is found in these wells AZCO reserves the right to obtain water through purchase or other methods consistent with the applicable state and federal laws.

2. The following minor revisions of various sections of the EIS are based on additional tests and analysis performed by professional consultants that were not available prior to the printing of the Final EIS.

   Page 2-34 paragraph 2. The correct statement is. "Water for dust suppression and plant operations will come from the confined Upper Gila Conglomerate aquifer wells. Additional water, if required, will come from ells drilled into the Lower Gila Conglomerate aquifer, or will be purchased from adjacent land owners."

   Page 3-15 paragraph 2 section 3.3.1 Regional Groundwater Conditions. Clarification of the following statement in this paragraph is necessary. "In areas near the Gila River, a shallow upper aquifer (Upper Gila Aquifer) system occurs in course alluvial deposits which overlie the lacustrine deposits and connects laterally with the Upper Gila Conglomerate aquifer". This statement applies to regional conditions where erosive forces have removed the confining layers of silt and clay from between these two aquifers. In these areas the upper Gila Conglomerate aquifer is not considered confined. However, this is not the case in the project area. Well logs, water quality, static water levels, lithology and pump tests support the conclusion that confining layers of silt and clay separate the Upper Gila Conglomerate aquifer from the Upper Gila aquifer and that the Upper Gila Conglomerate aquifer is confined in the project area.

   Page 3-17 paragraph 6 section 3.3.2 Local Groundwater Conditions. The statement "Terraces composed of older alluvium of the ancestral Gila River (Upper Gila Conglomerate aquifer) contain some water in perched zones associated with interfingered silt, sand and gravel lenses. A few wells along the flanks of the Gila Mountains yield water at depths of generally less than a hundred feet. Some of the water is under small artesian head, but most of the water-yielding layers are unconfined [Weist, 1971]. Again this does not apply to the project site. On the project site wells, completed in the Upper Gila Conglomerate aquifer, are under artesian head and support the conclusion that the Upper Gila Conglomerate aquifer is confined on the project site.

   Pages 3-25 paragraph 5 and 3-26 paragraph 1 section 3.3.3 Project Area Groundwater Conditions. The statement " A series of five wells and a variety of core holes were utilized to characterize the subsurface hydrogeology of the proposed pit area and surrounding Upper Gila aquifer" should be corrected to read " and surrounding confined aquifers". The Upper Gila aquifer does not surround the pit area. In fact it is only found near the southern edge of the project boundary. The statement " Groundwater was encountered in the Upper Gila Conglomerate aquifer at 150 feet below ground surface (bgs) and is unconfined" should read "and is confined". Tests and analysis mentioned previously confirm the confined nature of this aquifer.

   Page 4-11 paragraph 4 section 4.3.1 Groundwater. The statement " The Upper Gila Conglomerate aquifer does have a vertical gradient and discharges to the flood plain alluvium" applies to regional conditions. New data presented in the GSI report dated November 16, 1992 and December 30, 1992 supports the conclusion that the Upper Gila Conglomerate aquifer is a confined aquifer and does not discharge to the flood plain (Upper Gila aquifer). This GSI report was completed to provide information for the Aquifer Protection Permit application AZCO is required to obtain from the Arizona Department of Environmental Quality. This report was not available for the preparation of the Final EIS.

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